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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,557	08/05/2003	Kaoru Sato	43890-618	7144

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EXAMINER
LEO, LEONARD R

ART UNIT	PAPER NUMBER
3753	

DATE MAILED: 03/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/633,557	SATO ET AL.	
	Examiner	Art Unit	
	Leonard R. Leo	3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-9,15-17 and 19-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,5,15-17,19-25 and 27-33* is/are rejected.

7)☒ Claim(s) *6-9 and 26* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This application is a Division of serial no. 09/493,677, still pending. Claims 3, 10-14 and 18 are cancelled, and claims 1-2, 4-9, 15-17 and 19-33 are pending.

Claim Objections

Claims 6-8, 23 and 26 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Regarding claim 6, the vertical distance to the heat receiving face of both ends of the protrusions are the same, since the protrusions are parallel as recited in claim 1. The merits of the claim and its dependents cannot be determined.

Regarding claim 23, the vertical distance to the heat receiving face of the protrusions is the same, since the protrusions are parallel as recited in claim 1. The claim appears to be redundant.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-2, 5, 15-17, 19-21, 23-25 and 28-33 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 11 of U.S. Patent No. xx in view of Kuno et al (JP 04-294570).

The patent claims all the claimed limitations of the application except protrusions parallel to the heat receiving face.

Kuno et al discloses a heat sink comprising a column 3 and a plurality of protrusions 4 extending parallel with respect to the heat receiving face for the purpose of achieving a desired heat exchange.

Since the patent and Kuno et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by Kuno et al would have been recognized in the pertinent art of the patent.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in the patent protrusions extending parallel with respect to the heat receiving face for the purpose of achieving a desired heat exchange as recognized by Kuno et al.

Regarding claims 5, 17 and 31, Kuno et al discloses the heat receiving face is spaced from the nearest protrusion.

Claims 4 and 27 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 11 of U.S. Patent No. xx in view of Kuno et al (JP 04-294570) as applied to claims 1-2, 5, 15-17, 19-21, 23-25 and 28-33 above, and further in view of Schultz.

The combined teachings of the patent claims and Kuno et al lacks protrusions and/or recesses on the pillar-type protrusions.

Schultz discloses a heat sink comprising a plurality of fins 18, 20 having a plurality of protrusions and ridges 40, 40', 40" for the purpose of improving heat exchange by increasing the surface area and causing turbulence.

Since the patent and Schultz are both from the same field of endeavor and/or analogous art, the purpose disclosed by Schultz would have been recognized in the pertinent art of the patent.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in the patent protrusions and ridges for the purpose of improving heat exchange by increasing the surface area and causing turbulence as recognized by Schultz.

Claim 22 is are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 11 of U.S. Patent No. xx in view of Kuno et al (JP 04-294570) as applied to claims 1-2, 5, 15-17, 19-21, 23-25 and 28-33 above, and further in view of Arnold et al or Higgins, III

The combined teachings of the patent claims and Kuno et al lacks the column having a curved face.

Arnold et al (Figure 7) discloses a heat sink comprising a plurality of fins 20 disposed on a column having a curved surface 30 for the purpose of improving heat exchange by minimizing the dead space and streamlining the flow.

Higgins, III (Figure 4) discloses a heat sink comprising a plurality of fins 54 disposed on a column 50 having a curved surface 53 for the purpose of improving heat exchange by minimizing the dead space and streamlining the flow.

Since the patent and Arnold et al or Higgins, III are both from the same field of endeavor and/or analogous art, the purpose disclosed by Arnold et al or Higgins, III would have been recognized in the pertinent art of the patent.

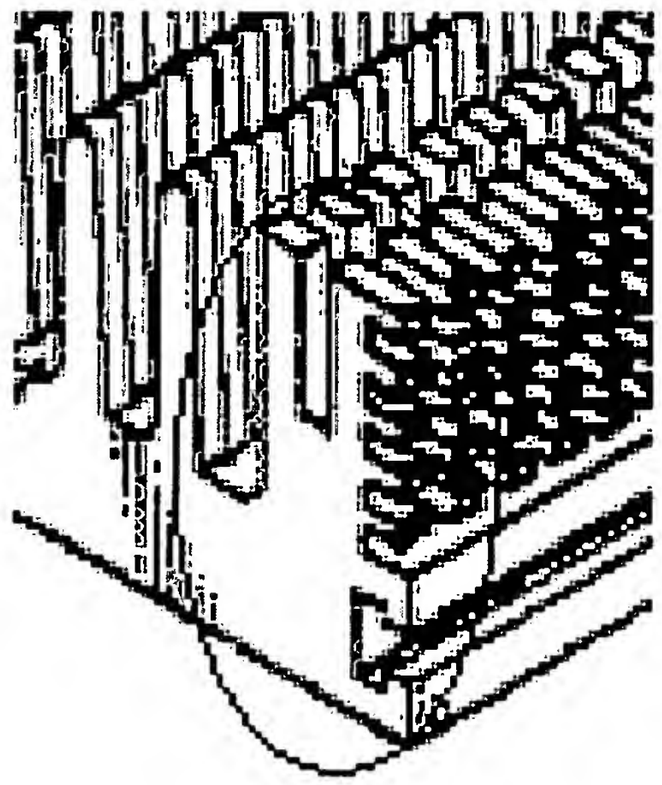
It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in the patent a column having a curved surface for the purpose of improving heat exchange by minimizing the dead space and streamlining the flow as recognized by Arnold et al or Higgins, III.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 29 is rejected under 35 U.S.C. 102(b) as being anticipated by Jordan et al. As shown on the following page, Jordan et al (circled region) discloses a column having a perpendicular side face with respect to the heat receiving face, a plurality of fins parallel to the heat receiving face, and blower 11 mounted thereon.



Claim 29 is rejected under 35 U.S.C. 102(b) as being anticipated by Kuno et al (Figure 1 or 2)(JP 04-294570).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2, 5, 22-23, 25, 28 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuno et al in view of Arnold et al.

Kuno et al (Figure 1 or 2) discloses all the claimed limitations the column having a curved face.

Arnold et al (Figure 7) discloses a heat sink comprising a plurality of fins 20 disposed on a column having a curved surface 30 for the purpose of improving heat exchange by minimizing the dead space and streamlining the flow.

Since Kuno et al and Arnold et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by Arnold et al would have been recognized in the pertinent art of Kuno et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Kuno et al a column having a curved surface for the purpose of improving heat exchange by minimizing the dead space and streamlining the flow as recognized by Arnold et al.

Claims 1-2, 5, 15-17, 19-25, 28 and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuno et al in view of Higgins, III.

Kuno et al (Figure 1 or 2) discloses all the claimed limitations the column having a curved face.

Higgins, III (Figure 4) discloses a heat sink comprising a plurality of fins 54 disposed on a column 50 having a curved surface 53 for the purpose of improving heat exchange by minimizing the dead space and streamlining the flow.

Since Kuno et al and Higgins, III are both from the same field of endeavor and/or analogous art, the purpose disclosed by Higgins, III would have been recognized in the pertinent art of Kuno et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Kuno et al a column having a curved surface for the purpose

of improving heat exchange by minimizing the dead space and streamlining the flow as recognized by Higgins, III.

Claims 4 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuno et al in view of Arnold et al as applied to claims 1-2, 5, 22-23, 25, 28 and 30-32 above or Kuno et al in view of Higgins, III as applied to claims 1-2, 5, 15-17, 19-25, 28 and 30-33 above and further in view of Schultz, as applied above in the double patenting rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard R. Leo whose telephone number is (571) 272-4916. The examiner can normally be reached on Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene can be reached on (571) 272-4930. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LEONARD R. LEO
PRIMARY EXAMINER
ART UNIT 3753

March 20, 2006